MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 2, 2015/2016 SESSION

THN3031 – HIGH SPEED NETWORK

(All Sections / Groups)

03 MARCH 2016
2:30 pm – 4:30 pm
(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This Question paper consists of 4 printed pages including cover page with 5 questions only.

2. Attempt **FIVE** out of **FIVE** questions. All questions carry equal marks and the distribution of marks for each question is given.

3. Please write all your answer in the Answer Booklet provided.

Question 1 [12 marks]

(a) Give one difference between PAGP and LACP protocols.

[2 marks]

(b) Give one situation where load balancing for link aggregation in layer 2 is useless. Explain with the use of a network diagram.

[4 marks]

(c) A frame relay switch receives multiple frames from DLCI 100 at input port serial 1/0/0. The DLCI 100 has a CIR of 100 Kbps. Every second the frame relay switch will measure the actual bandwidth used by DLCI 100 at input port serial 1/0/0. The parameter is called **BW_Measured**. These frames will be forwarded to DLCI 200 at output port serial 2/0/0.

The input frame entering se1/0/0 at DLCI 100

Frame No	FECN bit	BECN bit	DE bit	**BW_Measured.**
ABC	0	0	0	130 Kbps

Write down the output frame exiting the se2/0/0.

Frame No	FECN bit	BECN bit	DE bit
ABC			

[3 marks]

(d) Explain the difference between port access rate and CIR (Committed Information Rate)?

[3 marks]

Continued.....

Question 2 [12 marks]

(a) What is the overhead percentage of ATM protocol at the ATM link? Show your calculation.

[2 marks]

(b) Give two reasons why networking personnel dislike to use ATM as their WAN protocol?

[4 marks]

(c) Describe how ATM can solve the problem of packet delay in IP networks.

[3 marks]

(d) Give three reasons why ATM is no longer popular in today networks.

[3 marks]

Question 3 [12 marks]

(a) What is the difference between NAS and DAS?

[2 marks]

(b) Give two examples of NAS products that are available for consumer today.

[2 marks]

(c) State two protocols that are used in NAS.

[2 marks]

(d) State two protocols that are used in SAN.

[2 marks]

(e) State two out of the three components in SAN.

[2 marks]

(f) What is the limitation of a SCSI cable?

[2 marks]

Continued.....

Question 4 [12 marks]

(a) What is the function of OADM in a WDM network?

[2 marks]

(b) What is the function of OXC in a WDM network?

[2 marks]

(c) What are the problems with IP/WDM without any wavelength changers?

[2 marks]

(d) Explain how Optical Burst Switching works.

[2 marks]

(e) On average there are about 100 persons sitting inside the restaurant at any one point of time. Every minute there are 5 new persons goes into the restaurant. What is the average service time for each customer in the restaurant?

[2 marks]

(f) What is the difference between a SONET Path and a SONET line?

[2 marks]

Question 5 [12 marks]

(a) Give two differences between "Implicit congestion signaling" vs "Explicit congestion signaling".

[2 marks]

(b) Name the shortest-path algorithm used in RIP.

[1 mark]

(c) Explain briefly in what situation each router will initiate the process of counting to infinity to prevent routing loops. When will the routing loops stop? Explain with the use of a diagram.

[4 marks]

(d) Give two examples of policy based routing in Exterior routing protocol.

[4 marks]

(e) Explain how MPLS and VPN is related?

[1 mark]

End of Paper